HAZARD ANALYSIS - HIGH VOLTAGE & LOW CURRENT TEST ELECTRONICS RACKS

Description of Work: High-voltage ($\geq$ 600V AC or DC), Low-current ($\leq$ 10 amps operating, or < 50 amps capability) Power supplies can be found in system test racks in the ESE Department. An example is providing gain voltage to Photomultiplier tubes or providing bias voltages to silicon detectors. Installation and use of these supplies presents the following safety hazards.

Step/Phase of Job	Safety Hazard	Precautions/Safety Procedures
Installation	Muscle and joint strain, pinch, cut, and smash hazard	Use safe lifting methods including mechanical assistance, co-worker assistance, and correct posture. Evaluate need for personal protection equipment (PPE) for hands & face.
Installation	Electrical hazards including fire and welding	Ensure the power supply is disconnected from the mains. Measure the output connection voltage to confirm that no residual energy is stored within the module.
Installation	Heat and fire hazards.	Ensure the high voltage cable is appropriate for the task. Assure the connectors breakdown voltage is greater than the highest output voltage. Insure the cable is sized correctly for the conductor to safely carry at least the fault voltage needed to trip safety devices. Ensure the break-down voltage of the cable insulation is greater than the highest output voltage of the supply. Assure the cable jacket is sufficiently rugged for the task. Verify the high voltage connections are secure and will not easily become loose.
During Use	Electrical hazards including fire and welding.	Regularly check that the high voltage connections at both the supply and the load are secure and have not become loose. Regularly check the physical integrity of the cables and the connectors, replacing any with signs of excessive wear or of arcing. Regularly check the current output of the supply, checking that the current output from the supply is not leaking through the cable.
After Use	Electrical hazards including shock	Confirm that no residual energy is stored within the module by measuring the output connection voltage. If necessary, use a grounding stick to discharge the stored energy along a known current path.
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Accepted: _____ Date: _____
Supervisor/Task Manager

My supervisor has reviewed this hazard analysis with me and I understand the hazards and required precautionary actions. I will follow the requirements of this hazard analysis or notify my supervisor if I am unable to do so.

Name (please print)	Signature	Date